IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Christopher Batich et al.
Serial No. 09/965,740
Publication No. US 2002/0177828
Filed: 09/28/2001
For: Adsorbent Materials with Covalently Bonded, Nonleachable Polymeric Antimicrobial Surfaces, and Methods for Preparation
Atty. Docket No. QMT1.1-CIP-US
Group Art Unit: 3761
Examiner: Catherine Lynne Anderson

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

DECLARATION UNDER 37 C.F.R. § 1.132

Dr. Christopher Batich declares as follows:

Declarant

I am a Professor in the Biomedical Engineering Department at the University of Florida and one of the named inventors of the present application. I make this statement in support of the patentability of U.S. patent application 09/965,740 (the "present application").

I have assigned rights to the present invention to the University of Florida who has assigned its rights in the invention to the University of Florida Research Foundation. I presently own stock and options amounting to less than a 7% interest in Quick-Med Technologies, Inc.

Quick-Med Technologies, Inc. and the University of Florida Research Foundation are both assignees of the present application.

Credentials

I received a Ph.D. degree in Organic Chemistry from Rutgers University and continued with post-doctoral studies in physical chemistry at the University of Basel. My early industrial career involved work as a Quality Control Chemist with White Laboratories and a Staff Scientist with the Dupont Company.

My teaching career began in 1981 with the Materials Science and Engineering Department at the University of Florida, achieving the rank of Professor in 1988. In 2002, I became a Professor in the Biomedical Engineering Department at the University of Florida. During my career as a professor I have supervised the theses and dissertations of 22 masters and 17 doctoral degree

awardees. My publications include U.S. Patents and Patent Applications, as well as numerous publications in scientific journals including the Journal of the American Chemical Society, Biomaterials Transactions, Journal of Biomedical Materials Research, Journal of Polymer Science, Journal of Dental Research, and Journal of Nanoscience and Nanotechnology.

The attached CV further exemplifies my qualifications.

Introduction

My declaration is submitted to support the conclusion that the disclosure of U.S. 6,797,856 to Kolb et al. ("Kolb") does not disclose polymers of diallyldimethyl ammonium chloride ("polyDADMAC") as components, specifically binding agents, of a pant-like absorbent swimwear garment.

The Examiner has asserted that Kolb discloses a composition comprising a substrate having a coating consisting of polymeric molecules formed by the polymerization of a diallyldialkylammonium salt, and more specifically, polymers of the monomer diallyldimethylammonium chloride (DADMAC), or poly(DADMAC). The Examiner cites column 6, lines 16-27 of Kolb as support for the assertion that Kolb discloses polymers of DADMAC, also known as polyDADMAC.

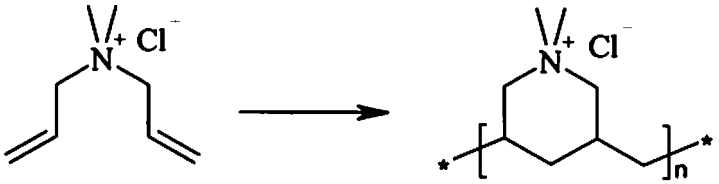
It is my opinion that Kolb does not disclose the use of poly(DADMAC), nor of polymers of a diallyldialkylammonium salt, as a binding agent component of a swimwear garment or swimpant.

Discussion

I have reviewed Kolb (U.S. Patent 6,797,856) as well as the specification and the pending claims of the above-captioned U.S. Patent Application 09/965,740.

The above-identified patent application exemplifies the use of polymers of diallyldimethylammonium chloride (DADMAC). When DADMAC is polymerized it forms poly(diallyldimethylammonium chloride) or polyDADMAC. Therefore, the above-identified patent application is concerned with polyDADMAC as a component of an antimicrobial substrate. The use of the monomer DADMAC as a component of the antimicrobial substrate is not taught by the inventors of the above-identified patent application.

The structural and chemical relationship of DADMAC to polyDADMAC is illustrated below.



DADMAC polyDADMAC

Within the passage of Kolb cited by the Examiner, suitable binding agents are described. Kolb lists many compounds as binding agents including cationic compounds, biological cationic polymers, inorganic cationic species, and polymer matrices [column 6, lines 16-19]. Kolb further exemplifies these compounds using a broad class of examples of polymers, non-polymeric compounds, and other substance types. Kolb makes no statement that the compounds within the list are limited to polymers only. Therefore, one reading the description must conclude that Kolb describes the specific compounds to be included within the list of suitable binding agents. Some of the compounds are specifically described as polymers. For example, biological cationic polymers, chitosan, SILGARD®, and polyacrylamides are polymers that are disclosed as binding agents [column 6, lines 22-25]. Some of the listed compounds may or may not be polymers. For example, quaternary ammonium, debonder, and softener are disclosed [column 6, lines 23-27] and are generic terms that could refer to either a polymer or a non-polymeric compound. Other compounds are not polymers. For example, liposome, diallyldimethyl ammonium chloride (DADMAC), and octadecyldimethoxylsilylpropylammonium chloride are not polymers.

Kolb does not disclose or suggest that polymers of diallyldimethyl ammonium chloride, nor polyDADMAC, are to be considered. Therefore, I conclude that Kolb does not disclose polyDADMAC as a binding agent component of a pant-like absorbent swimwear garment.

On further review of Kolb, I did not find any reference to the generic class of compounds, diallyldialkyl ammonium salts, recited in claims of the above-captioned application. In Kolb there is no mention of diallyldialkyl ammonium salts as either monomers or polymers. Thus, I conclude that Kolb does not disclose polymers of diallyldialkyl ammonium salts as suitable binders for use in the invention.

Verification

I further declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the above-referenced application or any patent issuing thereon.

Christopher D. Batich

Dr. Christopher D. Batich

November 6, 2009

CURRICULUM VITAE

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Professional Experience

2008-Present	Associate Director, Clinical and Translational Science Institute
2002-Present	Professor, Biomedical Engineering Department
1997-2002	Founding Director, UF Graduate Biomedical Engineering Program (Interim first year)
1981-Present	Materials Science and Engineering Dept., University of Florida Gainesville, FL (Professor since 1988)
1974-1981	Staff Scientist, Central Research Dept., DuPont Co., Wilmington, DE
1967-1969	Teaching Assistant, Chemistry Dept., Rutgers University, New Brunswick, NJ
1965-1967	Quality Control Chemist, White Laboratories (pharmaceutical company), Kenilworth, NJ

Education

1971-1974	University of Basel (Switzerland); Post-doctoral (physical chemistry) with Professor Edgar Heilbronner, Director of the Physical Chemistry Institute.
1967-1971	Rutgers University; Ph.D.(organic chemistry),1974; thesis advisor, Edel Wasserman
1961-1965	While residing in New Jersey, attended The Pennsylvania State University and obtained a B.S. (pre-medicine), 1965. Financial support was by a PTA scholarship, various loans (all repaid) and part-time work in kitchens, libraries, and laboratories.

Professional Membership

American Chemical Society (ACS)
- Polymer Chemistry Division
- Polymeric Materials Science and Engineering Division

Society of Biomaterials
- Membership Committee (1995-2000)
- Awards Committee (1996-7)
- Dental Materials Special Interest Group, vice chair (2000-2005)
- Faculty Advisor for Local Student Chapter (1997-present)

American Institute of Medical and Biological Engineers (AIMBE)
- Academic Council (1997-2002)
- College of Fellows (1999-present)

Professional Activities and Honors

Phi Lambda Upsilon (Honorary Chemistry Group). Section Vice-President, 1970
Chairman: Organic Chemists Club (Delaware), American Chemical Society, 1978
Chairman: College-Industry Relations Committee, Delaware Section (ACS), 1979 & 1980
Chairman: North-east ESCA Users Group, Nomination Committee, 1980-1981
Member: Florida Section ACS, Public Affairs Committee, 1983
College of Engineering Sabbatical, 1990-1991; Akzo Biomedical Research Center, Obernburg, Germany
Award for Excellence in Teaching ("TIP"), F-1995
Listed in Marquis' Who's Who in Medicine and Healthcare, 1st Edition, 1996.

Listed in The Official Who's Who of American Inventors, 5th Edition, 1998-99.
Professional Excellence Program Award ("PEP"), 1998
American Institute of Medical and Biological Engineering (AIMBE) Fellow (1999)
Co-Chair, AIMBE Public Information Committee (1999 -present)
Who's Who in Science and Engineering, Millennium Edition. (2000)
College of Engineering Nominee for the 2002 Ernest L. Boyer International Award of Excellence in Teaching, Learning and Technology (2001)

University Service

Graduate Student Co-Coordinator for Materials Department, 1984-1990
Faculty Senate, 1986-1988
Biomedical Engineering, curriculum co-organizer and advisor, 1984-1998
Biotechnology Patent Committee, 1984-1995
FEEDS coordinator for off-campus students, 1987-1991
Graduate Council Fellowship Selection Committee for Engineering, 1987-1990
Search Committee for UF, VP Research and Dean of Graduate School, 1993
College of Engineering, Tenure and Promotion Committee, 1991-1994
Chairman: College of Engineering Biomedical Engineering Graduate Academic Program (BEGAP), 1994-1998
Member MD/PhD Program Committee, 1994-2000
UF Advisory Board of the University of Florida's Institute for Science Policy (1998-2002)
Biomedical Engineering Department Faculty Search Committee (2002- January 2005)
Materials Science and Engineering Department Curriculum Committee (2002-4)
University of Florida Fringe Benefits Committee (2001-2003)
Major Analytical Instrumentation Center Advisory Board (2002-present)
University Faculty Nominations Committee (2004-present)
Institute for the Advanced Study of Emerging Pathogens Oversight Board (2004-present)
General Clinical Research Center Advisory Committee (UF) 2005-present
Department of Surgery Research Advisory committee (UF) 2005-present
Bioterrorism Task Force (2003-2004)
Long-range Planning Commitee for MSE (2005-present)
Endowed Chair Committee for MSE (2004-present)
Nanoposition Search Committee for MSE (2003-2006)
Materials Science and Engineering Department Curriculum Committee (2005-present)
Search Committee for Emerging Pathogens Institute Director (2006-April 2007)
Emerging Pathogens Institute Steering Committee (2004-present)
Clinical and translational science awards, NIH proposal preparation committee (2005-present)
Materials Science and Engineering Department Long-Range Planning Committee (2006-present)

Recent NIH Reviewing Activities (does not include past NIH/SBIR or NSF activities)

July 16, 2008 – Special Emphasis Panel on "Neurodevices and Bioengineering" - ZRG1 ETTN-A(03) (Role: Chair)
June 12-13, 2008 – Oncological Sciences Integrated Review Group for Developmental Therapeutics Study Section
October 20, 2006 - Special Emphasis Panel on "Polymers and Probes" - ZRG1 BST-A(02) (Role: Member)

Selected Invited Presentations

1984 "Surface Derivatization Reactions," Tennessee Eastman Co., Kingsport, TN
"Surface Derivatization Reactions," W.R. Grace Co., Columbia, MD
"Surface Derivatization Reactions," Los Alamos National Laboratory, NM
"Surface Derivatization Reactions," Sandia National Laboratory, NM
Federation of Analytical Chemistry and Spectroscopy Society, FACSS Sept. "The Last and Next Decade in Surface Analysis"
Kratos Users Group, Poconos, "Angular XPS Studies of Ga/As"
"Surface Studies of Polymers," Kimberly-Clark, Roswell, GA

1985 "Surface Studies of Polymers," C.R. Bard, Inc., Murray Hill, NJ
American Vacuum Society Meeting (Florida Section) -Copper/FEP Adhesion Silanes, Surfaces and Interfaces Symposium (June), Snowmass, CO

1986 FEP/Copper Adhesion, General Electric Solid State Meeting, Gainesville, FL
Biomedical Applications of XPS, Spectroscopy Society of Pittsburgh (April)
Tutorial lecture on "Surface Probes of Polymer Structure and Properties," Polymer Products Department, DuPont Co., Wilmington, DE
Polymer Surface Studies, Johnson & Johnson, Medical Polymers Research Committee Meeting, Gainesville, FL

1987 Symposium on Hyphenated Techniques, Pittsburgh Conference on Analytical Chemistry Surface Analysis, Monsanto Corp., Pensacola, FL
Department of Surgery, U. Florida Medical School "Research Projects"
Engelhard Industries, "Surface Analysis," Woodridge, NJ

1988 IBM Adhesion Course, Boca Raton, FL (April)
"Surfaces of Catheters," ASTM-F4 Meeting, Atlanta, GA

1989 "Surfaces of Catheters," Res. Calc. Kinetics Soc., St. Louis, MO
"The Effect of Polymer Matrix on the Growth of Tissue," 3rd Annual Research Highlights Meeting of the Center for Surface Science and Engineering, UF, Gainesville
"Incineration of Plastics," Center for Aeronormy, UF, Gainesville
"Surfaces of Biomaterials," North Carolina State University, Raleigh, N.C.

1990 "Incineration of Plastics," Amer. Inst. of Chem. Eng. Nat'l. Meeting (March)

1991 "Surfaces Analysis of Biomaterials," Akzo (Arnhem, Netherlands)
"Surfaces of Biomaterials," Max-Planck Institute for Polymer Research (Mainz, Germany)
"Overview of Research," ARLO (Obenburg, Germany)
"Inhibition of Oxalate Encrustation," ROCK Society Meeting (Cleveland)

1992 "Choosing the Right Surface Analytical Method for Polymers," Royal Society of Chemistry Annual Congress; April 14 (Manchester, UK)
"Safe Plastics," at Treeo Center, Course on Disposal of Biomedical Waste, June 1, 1992, (Gainesville)

1993 Biomaterials for Tissue Regeneration, Center for Wound Healing, UF

1994 Silicone Toxicity Symposium, Oct. 4 (Dallas, TX)

1995 Immunology of Silicone Symposium, NIH/NCI, March 1995 (Bethesda, MD)
Society For Biomaterials - pH Sensitive Polymers (March, San Francisco)
Center for Occupational Health - Silicones (September, Detroit)

1996 "Tissue Regeneration," Monsanto Co. (January, St. Louis, MO)

1998 "pH Sensitive Drug Delivery," Pharmacology Department. Seminar, (September, University of Florida)

1999 "Surface Changes of Biomaterials - Needed Data," 7th Annual Symposium of the Florida Chapter of the American Vacuum Society and the 17th Annual Meeting of the Florida Society for Microscopy (March, University of Central Florida, Orlando, Fl)

2000 "Biomedical Engineering and Biomaterials" Guest speaker for the 37th Annual Junior Science, Engineering and Humanities Symposium (JSEHS)
"Development and In Vitro Evaluation of Sustained Release Ilomastat Devices" "Transactions of the society of Biomaterials" Annual meeting May 2000.
"Microspheres and Coatings of pH-sensitive Polymers for Biomedical Engineering Uses," 2000 Florida Inter-Research Experience for Undergraduates (NSF Funded) July 2000.

2001 American Institute of Medical and Biological Engineering (AIMBE) Annual Meeting, PR needs in Biomedical Engineering

2003 Testimony before: "General and Plastic Surgery Devices Panel of the FDA Medical Devices Advisory Committee," October 15, 2003, Gaithersburg, MD.

2006 "Iron-Containing Deposits and Neurodegeneration," Aging & Rehabilitation Research Seminar Series, March 20, 2006. (UF)
"Alternative Drug Delivery Methods," South East Regional interdisciplinary Symposium, University of Florida AAPS Student Chapter, May 19-21, 2006, Gainesville, FL.
"Reducing MRSA infections," 21st Century Health Care Caucus (Sam Rayburn Office Bldg.), June 6-7, 2006, Washington, DC.

2007 "Engineering in Dentistry," UF College of Dentistry Research Day (opening lecture to Dental Faculty), April 2007. (UF)

2008 "Iron Imaging and Analysis in Neurodegenerative Diseases," Mark Davidson, Joanna F. Collingwood, Saurav Chandra,

Albina Mikhaylova, Thomas Eskin, Jon Dobson, John Forder , and Christopher Batich, invited talk presented at the Conference on Computational Neuroscience 2008, February 20-21, 2008, University of Florida, Gainesville, Florida
"Engineering Capabilities for Research," Christopher Batich, presentation at Brain Tumor Workshop, April 30, 2008, University of Florida, Gainesville, Florida

2009 "The Clinical and Translational Science Institute" presented at the Jacksonville Shands Hospital Celebration of Research Day. May 21.

Selected Courses Taught (*videotaped course, "FEEDS")

Introduction to Polymer Science*
Polymer Physics
Instrumental Methods of Polymer Analysis*
Vacuum Science and Technology (AVS short course, 1983,1984)
Surface Analysis (MAIC short course, 1984-1987)
Biomaterials*
Tissue Engineering
Polymer Composites (33%)
Thin Film Adhesion (AVS short course, San Jose, March 1986; Meadowlands, NJ, September 1987)
2002 Scaffolds for tissue engineering (part of class on stem cells at the UF Health Center), also 2003-present

Publications/Reviewed (excluding patents, * indicates invited paper)

1. "Mass Spectral Evidence for Catenanes Formed via a Mobius-Strip Approach," D. Ben-Effraim, C. Batich, and E. Wasserman, J. Amer. Chem. Soc., 92, p. 2123 (1970).
2. "The Photoelectron Spectra of Cyclooctatetraene and its Hydrogenated Derivatives," C. Batich, P. Bischof, and E. Heilbronner, J. Electron Spectrosc., 1 p. 33 (1972).
3. "Photoelectron Spectra of Phosphabenzene, Arsabenzene, and Stibabenzene," C. Batich, E. Heilbronner, V. Hornung, A. J. Ashe III, D. T. Clark, U. T. Cobley, D. Kilcast, and I. Scanlan, J. Amer. Chem. Soc., 95, p. 928 (1973).
4. "Ionization Potentials of Deformed Pi-Bonds," C. Batich, O. Ermer, E. Heilbronner, and J. Wiseman, Angew. Chem., Int. Ed. Eng., 12, p. 312 (1973).
5. "Bermerkung zur Gleichheit der Aufspaltung ι (zwischen den ersten beiden Pi-Ionizationspotentialen) und ε zwischen den entsprechenden π - Uebergangsenergien) des Spiro (4,4) nonatetraens," C. Batich, E. Heilbronner, and M. Semmelhack, Helvetica Chimica Acta, 56, p. 2110 (1973).
6. "The Photoelectron Spectra of Alkyl Peroxides," C. Batich and Waldemar Adam, Tet. Lett., p. 1467 (1974).
7. "The Ionization Energies of Bridged <1A> Annulenes and of Dicyclohepta <cd,gh> Pentalene," C. Batich, E. Heilbronner, and E. Vogel, Helvetica Chimica Acta. 57, p. 2288 (1974).
8. "Equivalence of the Energy Gaps ι (1,2) and ε (1,2) Between Corresponding Bands in the Photoelectron (I) and Electronic Absorption (E) Spectra of Spiro <4,4> nonatetraene. An Amusing Consequence of Spiro Conjugation," C. Batich, E. Heilbronner, E. Rommel, M. Semmelhack and J. S. Foos, J. Amer. Chem. Soc., 96, p. 7662 (1974).
9. "The Electronic Structure of Vinyl Ethers and Sulfides with Interrupted Conjugation Examined by Photoelectron Spectroscopy," C. Batich, E. Heilbronner, C. B. Quinn, and J. Wiseman, Helvetica Chemic Acta, 59, p. 512-522 (1976).
10. "Photoelectron Spectroscopy of Bis (-allyl) Nickel and Its Methyl Substituted Derivatives: Support for the Near Validity of Koopmans' Theorem," C. Batich, J. Amer. Chem. Soc., 98, p. 7585-7590 (1976).
11. "Surface Characterization of Acid- and Base-treated Chromosorb W by Electron Spectroscopy for Chemical Analysis," M.A. Kaiser and C. Batich, J. of Chromatography, 175, p. 174-177 (1976).
12. "Radical Cation States of 2,3,5,6-Tetramethylene-norborane, 2,3,5,6-Tetramethylenebicyclo <2.2.2> Octane and of Related Compounds," M. Mohraz, C. Batich, E. Heilbronner, P. Vogel, and P. A. Carrupt, Recl. Trav. Chem. Pavs-Bas, 95, p. 362-367 (1978).
13. "Electronic Structure of Metalorganic Compounds 6. The Photoelectron Spectra of Ni, Pd, Pt-diallyl," M. Bohm, R. Gleiter, C. Batich, Helvetica Chim. Acta, 63 (4), p. 990-1005 (1980).
14.* "Chemical Labels to Distinguish Surface Functional Groups Using X-ray Photoelectron Spectroscopy (ESCA)," C. Batich and R. Wendt, "ACS Symposium Series No. 162" p. 221-235. "Photon, Electron and Ion Probes of Polymer Structure and Properties," D. Dwight, T. Farbish, and H. R. Thomas, ed. (1981).

15. "X-ray Photoelectron Spectroscopy Study of the Effect of Ozone on Various Styrene/Butadiene Co-polymers," K. Stephens, M. Ammons, C. Batich, C. Beatty, and W. Swartz, ACS Symposium Series No. 229, "The Effects on Hostile Environments as Coatings and Plastics," pp. 279-290 (1983).
16. "X-ray Photoelectron Spectroscopy of Nitroso Compounds," C. Batich and D. Donald, J. Amer. Chem. Soc., p. 2758 (1984).
17. "Surface Studies of Calculi Deposition on Foley Catheter Materials," C. Batich, C. Cheng, C. Johnson, V. Rodriquez, and S. Batich, Biomaterials Transactions, Volume VII, p. 31 (1984).
18. "Matrix Mineral Configuration in Whewellite Kidney Stones: Ultrastructural Analysis," L Ogbugi, C. Batich, and B. Finlayson, Urolithiasis and Related Clinical Research, edited by P. O. Schwille, L. H. Smith, W. G. Robertson, and W. Vahlensieck (Plenum Pub. Corp.), pp. 711-714 (1984).
19.* "Ultrastructure of Whewellite Kidney Stones: Electron-analytical Investigation," L Ogbugi, C. Batich, and B. Finlayson, J. Ultrastructural Research, 90, p. 1-8 (1985).
20. "Polymers as Moisture Barriers to Maintain Seed Quality," S. West, S. Loftin, M. Wahl, C. Batich, and C. Beatty, Crop Sci., 25, p. 941-945 (1985).
21.* "XPS Studies of Polymeric Surfaces and Interfaces," C. Batich, Surfaces Silanes and Interfaces, ed. D. Lyden, Gordon and Breach Science Pub., NY, pp. 215-234 (1986).
22. "Custom-made Vaginal Balloons for Strengthening Circumvaginal Muscle Strength," R. Abrams, C. Batich, M. Dougherty, P. McKey, Y. C. Un, and H. Parker, Biomaterials, Medical Devices and Artificial Organs, 14, pp. 239-248 (1986).
23. "Surface Modification: I, Graft Polymerization of Acrylamide Onto LDPE by Ce^{4+} Induced Initiation," C. Batich and A. Yahiaoui, J. Polym. Sci., Polym. Chem. Ed., 25, p. 3479-3488 (1987).
24. "Surface Segregation and Low Temperature Oxidation of Ni-Cr Alloys," S. Jeng, P. Holloway, C. Batich, and S. Hofmann, J. Vac. Sci. Tech., A5 (4), p. 650-651 (1987) (summary abstract).
25. "The Effect of Exercise on the Circumvaginal Muscles: Pilot Study Results," M. Dougherty, R. Abrams, C. Batich, P. McKey, and R. Thomas, Florida Nursing Review, 2, pp. 12-13 (1987).
26. "Effect of Exercise on the Circumvaginal Muscles (CVM)," M. Dougherty, R. Abrams, C. Batich, K. Bishop, and P. Gimotty, Neurology and Urodynamics, 6, pp. 189-190 (1987) (extended abstract).
27. "New Attachment Formation Following Controlled Tissue Regeneration Using Biodegradable Membranes," I. Magnusson, C. Batich, and B. Collins, J. Periodontology, 59, pp. 1-6 (1988).
28. "Water and Abrasive Effects on 3-body Wear of Dental Composites," D. Sarrett, K-J. Solderholm, and C. Batich, J. Dental Research, 67, p. 362 (1988) (reviewed abstract).
29.* "Chemical Derivatization Surface Analysis," C. Batich, J. Applied Surface Science, 32, pp. 57-73 (1988).
30. "The Dynamic Characteristics of the Circumvaginal Muscles (CVM) in Non-parturient and Parturient Women," J. Samples, M. Dougherty, R. Abrams, and C. Batich, JOGNN, May issue, pp. 194-201 (1988).
31.* "Co-combustion in Community Waste to Energy Systems," A. Green, et al., in Co-Combustion, ed. A. Green, pp. 13-28 (1988). Joint Power Generation Conference, Philadelphia, PA, September 1988.
32. "Variation in the Apparent Coefficient of Friction of Wheat on Galvanized Steel," S. A. Thompson, R. A. Bucklin, C. D. Batich, and I. J. Ross, Am. Soc. Agri. Engr., 31, p. 1518-1524 (1988).
33. "Toxic Hydrolysis Product from a Biodegradable Foam Implant," C. Batich, R. King, and J. Williams, J. Biomed. Mater. Res.: Applied Biomaterials, 23 pp. 311-319 (1989).
34. "Polyaniline via Schiff Base Chemistry," C. Batich, P. H. Gebert, D. B. Tanner, and S. L. Herr, Synthetic Metals, 29, pp. E371-376 (1989).
35.* "The Effect of Exercise on the Circumvaginal Muscles in Postpartum Women," M. C. Dougherty, K. R. Bishop, R. M. Abrams, C. D. Batich, and P. A. Gimotty, J. of Nurse-Midwifery, 1, p. 8-14 (January/ February 1989).
36. "Apatite Deposition on Urinary Catheter Materials," B. Piper and C. Batich, Transactions of the Society of Biomaterials, 12, p. 221 (1989).
37. "Chain Propagation/Step Propagation Polymerization. III. An XPS Investigation of Poly(oxyethylene)-b--Poly(pivalolactone) Telechelomer," K. Wagener, C. Batich, B. Kirsch, and S. Wanigatunga, J. Polym Sci.: A: Polym. Chem., 27, pp. 2625-2631 (1989).
38. "Surface Passivation of Ni/Cr Alloy at Room Temperature," S. Jeng, P. Holloway, C. Batich, Surface Science, 227, p. 278 (1989).
39. "Chromatic Changes in Polyaniline Films," C. Batich, H. Laitinen, and H. Zhou, J. Electrochem. Soc., 137, pp. 883-885 (1990).
40. "Surface Morphology Study of Foley Catheter Balloon After Inflation," C. Batich, and B. Piper, Transactions of the Society of Biomaterials (1990 meeting) 13, p. 117 (1990).

41. "Synthesis and Applications of a Vinylsilazane Preceramic Polymer," Wm. Toreki, C. Batich, M. Sacks, A. Morrone, Ceram. Eng. Soc. Proc., 11 (9-10), pp. 1371-1386 (1990).
42. "Oxalate Degradation by Alginate Microencapsulation of Oxalobacter Formigene," F. Vaghefi, C. Batich, C. Shevock, Transactions of the Society of Biomaterials (1990 meeting) 13, p. 102 (1990).
43. "Toxic Products from Co-Combustion of Institutional Waste," A. Green, C. Batich, D. Powell, and et al., 83rd Annual Meeting of the Air and Waste Management Association, Forum 90, June 24-29, 1990, Pittsburgh, Pennsylvania.
44. "The Polymerization of a Functionalized Aniline Monolayer," H. Zhou, R. Stern, C. Batich and R. Duran, Makromol. Chem. Rapid Commun. 11, 409 (1990).
45. "Water and Abrasive Effects on Three-Body Wear of Composites," D.C. Sarrett, K.J.M. Soderholm, C.D. Batich, J. Dental Research, 70, pp. 1074-1081 (1991).
46. "TEM Microstructural Analysis of Ceramic Powders Derived from the Pyrolysis of Polyvinylmethylsilazane," A.A. Morrone, Wm. Toreki and C.D. Batich, Materials Letters 11, (1,2), pp. 19-25 (1991).
47.* "Materials Used in Breast Implants: Silicones and Polyurethanes," C. Batich and D. DePalma; J. of Long-Term Effects of Medical Implants, 1, pp. 255-268 (1992).
48.* "Substitutes for Chlorinated Plastics," K. Wagener, C. Batich and A. Green, pp. 155-169 in "Pollution Prevention and Medical Waste Incineration," A. Green, editor; Reinhold van Nostrand, Pub. N.Y., NY (1992).
49. "Polymer-Derived Silicon Carbide Fibers with Improved Thermomechanical Stability," W. Toreki, C. Batich, M.D. Sacks, M. Saleem, and G. Choi, pp. 761-769 in "Better Ceramics Through Chemistry V," edited by M.J. Hampden-Smith, W.G. Klemperer, and C.J. Brinker, Mat. Res. Soc. Symp. Proc., Vol. 271, Materials Research Society, Pittsburgh, PA (1992).
50. "Polymer-Derived Silicon Carbide Fibers with Low Oxygen Content," W. Toreki, G.J. Choi, C. Batich, M.D. Sacks, and M. Saleem in Ceram. Eng. Sci. Proc., 13 (9-10), pp. 198-208 (1992).
51. "Swelling Behavior of pH-Sensitive Copolymers Based on Styrene and 4- (or 2-) Vinylpyridine," C. Batich, Y. Jun, C. Bucaria, and M. Elsabee, Macromolecules, 126, pp. 4675-4681 (1993).
52. "Environmental Stability of Polymers," Tom Atkins and Chris Batich, MRS Bulletin, 18, pp. 40-44 (1993).
53. "Synthesis and Polymerization of 2-Alkylanilines," R. Bodalia, R. Stern, C. Batich, and R. Duran, J. Polym. Sci.: A: Polym. Chem., 31, pp. 2123-2127 (1993).
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Taili Thula (MS) – Salivary Gland Protection During Radiotherapy (May 2003).
Glen Flores – Ferroelectric Hyperthermia for Cancer Therapy (August 2003).
Bernd Liesenfeld (Ph.D.) -Superparamagnetic Folate-Immobilized Dye Labeled Microspheres For Oral Cancer Screening" (April 2004).
Albina Mikhailova (Ph.D.) – Iron Biomineralization of Brain Tissue and Neurodegenerative Disorders (December 2004).
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Olajompo Moloye (PhD) – "Modification of Endovascular Stent Graft for Abdominal Aortic Aneurysm Repair" (December 2006).
John Azeke (PhD) – "PLGA-PEG-PLGA Microspheres as a Delivery Vehicle for Antisense Oligonucleotides to CTGF: Implications on Post-Surgical Peritoneal Adhesion Prevention" (December 2006).
Taili Thula (PhD) – "Deformable Microparticles with Multiple Functions for Drug Delivery and Device Testing" (May 2007).
JP Bullivant (MS) – "Table Superparamagnetic Ferrofluids for the Treatment of Secondary Liver Cancer by Hyperthermia" (May 2008)

Reviewer For

Encyclopedia of Polymer Science and Technology
Engineered Materials Handbook (ASM)
J. American Ceramics Society
J. American Chemical Society

J. Electron Spectroscopy
J. Industrial and Engineering Science
J. Organic Chemistry
J. Physical Chemistry
J. Surface and Interfacial Science
J. Vacuum Science and Technology
Macromolecules
National Institutes of Health (research resources, small business grants/SBIR)
National Science Foundation
Scanning Electron Microscopy
Petroleum Research Fund
J. Applied Biomaterials
J. Biomedical Materials Research
National Institutes of Health (research resources, small business grants)
National Science Foundation
Petroleum Research Fund
Scanning Electron Microscopy
MRS Book Review Board
Acta Biomaterialia

Panel Member For

Polymer Principles In the Undergraduate Curriculum, Florida ACS meeting, panel discussion (1986).
National Institute for Trial Advocacy, course requiring expert witness (1985-1994).
Materials Research Society, Spring 1988 meeting, co-organizer of Adhesion Symposium.

Other Recent Meeting Activities:

Co-chair, "Surface Analysis" session of Soc. for Biomat. Meeting (San Francisco, 1995).
Co-chair, "Silicones" session of World Biomat. Congress Meeting (Toronto, 1996).
Co-chair, "Modification of Biomaterials Surfaces" session of Soc. for Biomat. Meeting (New Orleans, 1997).
Co-chair, "Progress in Drug Delivery" session of Soc. for Society of Biomaterials Meeting (St. Paul, Minn., 2001)
Chair, "Dental Materials" session for Society of Biomaterials Meeting (Tampa, FL 2002)
Moderator for session at "Regeneration One" meeting at Amelia Island (Dec 2007)

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